forming a semiconductor substrate with a copper (Cu) interconnect material;

fabricating a copper (Cu) bond pad from the interconnect material;

depositing a homogenous tantalum (Ta) layer onto the substrate and over the copper (Cu) bond pad;

patterning and etching the tantalum (Ta) layer; and

bonding an aluminum (Al) wire to the tantalum (Ta) layer over the bond pad; and

wherein a portion of the tantalum (Ta) layer forms an intermetallic bond with the copper (Cu) bond pad, and another portion of the tantalum (Ta) layer forms a tantalum aluminide ($TaAl_3$) compound to intermetallically bond the aluminum wire to the tantalum (Ta) layer.

(2) Please amend Claim 10 as follows:

10. (Twice amended) A wire bonding method, comprising the steps of:

forming a bond pad made from an interconnect metal on a semiconductor substrate;

encapsulating said bond pad with a homogenous metal passivation layer;

bonding a wire onto the metal passivation layer, the metal passivation layer including a metal different from the wire;

wherein a portion of the metal passivation layer forms an intermetallic bond with the interconnect metal, and wherein another portion of the metal passivation layer forms a different intermetallic bond with the wire; and

wherein a mechanical and electrical connection is provided between the interconnect metal and the wire, with the metal passivation layer disposed therebetween.